(d) if so, the details thereof and the steps being taken by Government to overcome the situation that may arise in these metro cities in the event of earthquake of high intensity?

THE MINISTER OF STATE OF THE MINISTRY OF EARTH SCIENCES (SHRI PRITHVIRAJ CHAVAN): (a) The Government is not aware of any study conducted by the Geo-Hazards International and UN Centre for Regional Development for 21 cities of the country to locate earthquake prone zone.

(b) Does not arise.

(c) Does not arise.

(d) The Government of India has taken several steps aimed at earthquake hazard mapping including mitigation and management. A dedicated centre for Earthquake Risk Evaluation has been set-up as a separate wing of India Meteorological Department (IMD) which is mandated for collation and integration of existing data sets and to prepare the site-specific earthquake risk maps of high earthquake prone areas including metro cities. As per the seismic zoning map of India, published by the Bureau of Indian Standards (BIS), the country is divided into 4 seismic zones, zone V is most seismically active, while zone II is the least. The map is periodically updated on new findings and data inputs.

Bureau of Indian Standards (BIS) and Building and Material Technology Promotion Council (BMTPC) have also brought out various guidelines for construction of earthquake resistant design of structures to minimize losses caused due to earthquakes. Design and construction of structures/dwellings as per these guidelines would ensure minimizing the damage to property and loss of lives in case of earthquakes.

Monsoon in North India

1367. SHRI TARIQ ANWAR: Will the Minister of EARTH SCIENCES be pleased to state:

(a) whether it is a fact that Monsoon is expected to reach North India very late and due to this reason, its impact is going to be very bad;

(b) if so, the reasons therefor; and

(c) whether Government is keeping a watch on this and taking early steps in this regard?

THE MINISTER OF STATE OF THE MINISTRY OF EARTH SCIENCES (SHRI PRITHVIRAJ CHAVAN): (a) and (b) Southwest Monsoon-2009 set in over Andaman Sea around its normal date on 20th May, 2009 but it advanced over Kerala earlier than its normal date (1st June) by about 8-days on 23rd May, 2009. Further advancement of Monsoon-2009 over parts of Karnataka, Coastal Andhra Pradesh, Rayalaseema, West Bengal and Northeastern States was seen by the 1st week of June. Subsequently, the monsoon advancement over other parts of the country was sluggish as monsoon

entered into a weak phase of its activity. Details of delay in monsoon advancement during 2009 over North India are given below:—

Sl. No.	Name of the sub-division	Normal date of monsoon onset	Actual date of monsoon onset during 2009	No. of days of delay
1.	Jharkhand	16th June	29th June	14
2.	Bihar	16th June	29th June	14
3.	Chhattisgarh	17th June	26th June	10
4.	East Madhya Pradesh	20th June	29th June	10
5.	Gujarat Region	21st June	24th June	4
6.	East Uttar Pradesh	22nd June	29th June	8
7.	Saurashtra, Kutch and Diu	22nd June	24th June	3
8.	Uttarakhand	26th June	29th June	3

On the whole, Monsoon-2009 advancement over parts of north India is found to be 3-14 days delayed from the respective normal date of onset in various parts of the country. It is believed that the realized delay of monsoon onset does not have appreciable impact on the sowing operations in those parts of the country.

(c) The India Meteorological Department (IMD) is keeping a continuous watch on the monsoon rainfall activity on day-to-day basis and provides updates to various Ministries of Government of India (Agriculture; Water Resources etc.) for taking appropriate steps to deal with the emerging situation effectively.

Problem of climate change

1368. DR. K. MALAISAMY: Will the Minister of EARTH SCIENCES be pleased to state:

(a) to what extent India has succeeded or is hopeful of succeeding over the problem of climate changes;

(b) in case, of inaction, or non-action or less action in dealing with this major threat, what would be its repercussions; and

(c) whether India has resorted to the assistance of expert study either from within or abroad?

THE MINISTER OF STATE OF THE MINISTRY OF EARTH SCIENCES (SHRI PRITHVIRAJ CHAVAN): (a) and (b) The causal factors and consequently action for mitigating possible climate change and global warming, are mainly focused on reduction of carbon emissions. Norms for carbon emission limits are in place for industry, power sector, automobiles etc. India and the world are committed to addressing the critical problem of stabilizing carbon emissions.